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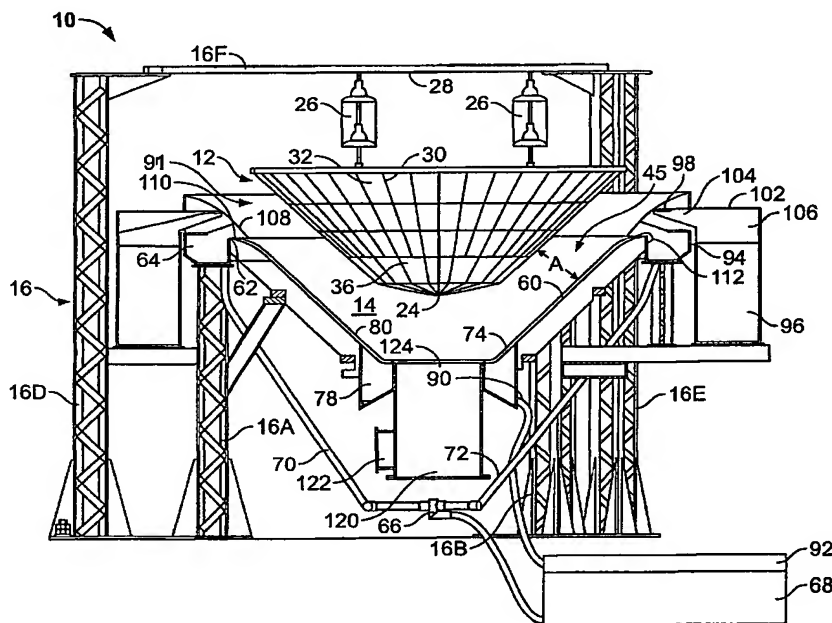
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(54) Title: APPARATUS AND METHOD FOR REDUCING AND REMOVING AIRBORNE OXIDIZED PARTICULATES



(57) Abstract: An apparatus (10) and method for recovering elemental carbon, elemental sulfur, elemental iron, elemental gold and other elemental materials from an air flow including a funnel-shaped receptor (14) and an inverted cone-shape electrode node body (12) spaced from the funnel receptor, a funnel-shaped reaction zone (45) between the outer surface of the electrode node body and the inner surface (60) of the receptor for receiving the air flow, and a plurality of point source electrodes (36) mounted to the electrode node body (12) and projecting into the reaction zone (45). The electrode node body (12) and the receptor (14) are electrically isolated from each other, the receptor (14) is connected to ground, and a voltage source is electrically connected to the electrode node body (12). The apparatus and method may be used

for treating an air flow containing pollutants generated from the burning of fossil fuels, trash and other materials to reduce the oxides to elemental matter and water and to remove the elemental matter from the air flow, for treating emissions of coal-operated power plants to improve their efficiency by recovering carbon from the plant emissions and reusing the recovered carbon as fuel, to reduce landfill requirements by burning trash in incinerators and treating the incinerator emissions to recover elemental material which is then landfilled in far less space than the original unburned trash, and to produce valuable elemental material such as fullerenes.



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